UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,718	12/14/2001	Philip J. Kellman	42055/SAH/K415	9540

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CHRISTIE, PARKER & HALE, LLP
350 WEST COLORADO BOULEVARD
SUITE 500
PASADENA, CA 91105

EXAMINER
HARRIS, CHANDA L

ART UNIT	PAPER NUMBER
3714	

DATE MAILED: 06/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
Office Action Summary	10/020,718	KELLMAN, PHILIP J.
	Examiner	Art Unit	
	Chanda L. Harris	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02 April 2003_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-62_ is/are pending in the application.

  4a) Of the above claim(s) _32-62_ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-31_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

  If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____ .

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

  a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _3,8_ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Claims 32-62 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as

being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 7.

Information Disclosure Statement

The information disclosure statement filed 5/10/02 fails to comply with 37 CFR

1.98(a)(2), which requires a legible copy of each publication or that portion which

caused it to be listed; and all other information or that portion which caused it to be

listed. It has been placed in the application file, but the information referred to therein

has not been considered.

Claim Objections

Claim 6 is objected to because of the following informalities: Line 2: "a" should precede

parameter. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

1.   Claims 9-11 recite the limitation "the delay" in line 4. There is insufficient

antecedent basis for this limitation in the claim.

2.   Claim 17 recites the limitation "the learning criterion" in line 1. There is

insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ditto

(US 6,270,352) in view of Boon (US 6,022,221).

1.   [Claims 1,21,31]: Regarding Claims 1,21, and 31, Ditto discloses a computer

including one or more memory portions (e.g. RAMs). See Col.4: 28-33. Ditto discloses

software for implementing a trial loop (i.e. single presentation of a problem), wherein the

learning trials are presented to the student and response data are collected. See

Col.13: 51-59. Ditto discloses software for implementing a sequencing algorithm,

wherein the algorithm sequences the learning items to be presented as a function of the

response data collected from prior learning trials. See Col.13: 31-38. Ditto discloses a

computer including a central processing unit, a visual display device, at least one input

device, and one or more memory portions. See FIG.7. Ditto discloses wherein each

learning item has an associated priority score (i.e. classification scheme). See

Col.21:23-26.

Ditto does not disclose expressly a problem database containing a plurality of

learning items (i.e. a database with records containing problems or questions), wherein

a learning item is presented on each learning trial or a trial record database for storing

response data regarding the student's response to each learning item (i.e. a value used

to indicate the level of retention the user has for each question/answer pair). However,

Boon teaches such in Col.2: 66-Col.3: 1 and Col.4: 31-37. Therefore, at the time of the

invention, it would have been obvious to one of ordinary skill in the art to incorporate the

aforementioned limitations into the method and system of Ditto, in light of the teaching

of Boon, in order to track a user's level of retention for each question/answer pair.

2.   [Claim 2]: Regarding Claim 2, Ditto discloses wherein the response data

collected for each learning trial includes the student's accuracy (i.e. whether or not the

answer was correct) in answering the presented learning item and the student's

response speed (i.e. the time it takes to respond to a problem) if the item was correctly

answered. See Col.13: 56-59.

3.   [Claim 3]: Regarding Claim 3, Ditto discloses wherein each learning trial includes

a priority score (i.e. performance number) associated with the particular learning item.

See Col.13: 31-42.

4.   [Claims 4,22]: Regarding Claims 4 and 22, Ditto discloses wherein the

sequencing algorithm continuously updates the priority score of each learning item

based on the response data collected on the immediately preceding learning trial. See Col.13: 31-38.

5.   [Claim 5]: Regarding Claim 5, Ditto discloses wherein the number of trials since a particular learning item was last presented is a variable used by the sequencing algorithm in continuously updating the priority score of each learning item. See Col.15: 23-60.

6.   [Claim 6]: Regarding Claim 6, Ditto discloses wherein the relative importance of the student's speed and accuracy in sequencing of learning items is a parameter. See Col.14: 7-13.

7.   [Claim 7]: Regarding Claim 7 Ditto discloses wherein the software for implementing a trial loop includes a problem selector, the problem selector selecting the learning item with the highest priority score (i.e. high performance number) for presentation to the student. See Col.14: 29-36.

8.   [Claims 8, 23]: Regarding Claims 8 and 23, Ditto discloses wherein when a subset of the plurality of learning items have the same high priority score (i.e. corresponding performance numbers), the problem selector selects the learning item for presentation at random from the subset of learning items with the same high priority score. See Col.16: 13-19.

9.   [Claims 9-11]: Regarding Claims 9-11, Ditto discloses wherein the sequencing algorithm increases the priority score for each incorrectly answered learning item, wherein the probability of each incorrectly answered learning item being again selected by the problem selector increases, whereby the delay in learning item reappearance

decreases; wherein the sequencing algorithm decreases the priority score for each correctly answered learning item, wherein the probability of that learning item being again selected by the problem selector decreases, whereby the delay in learning item reoccurrence increases; wherein the sequencing algorithm decreases the priority for each correctly answered learning item as a function of the student's response time in answering the question, wherein the delay in a particular learning item's reappearance increases as the student's response time to the particular learning item decreases . See Col.14: 19-28 and 30-37.

10.   [Claims 12, 25]: Regarding Claims 12 and 25, Ditto does not discloses expressly wherein the sequencing algorithm prevents the same learning item from recurring for a predetermined number of trials. However, Boon teaches such in Col.4: 21-23. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate the aforementioned limitation into the method and system of Ditto, in light of the teaching of Boon, in order to test level of retention of the ;earning item.

11.   [Claims 13-14, 26-27]: Regarding Claims 13-14 and 26-27, Ditto discloses wherein each learning item may be assigned an initial priority score (i.e. performance number) and wherein the sequencing algorithm does not modify the priority score of each item until after its first presentation. See Col.13: 31-38.

12.   [Claims 15,28]: Regarding Claims 15 and 28, Ditto discloses wherein the initial order of appearance of all, or some, of the learning items may be determined in

advance by assigning all, or some, of the learning items initial priority scores in

ascending or descending order (i.e. classification scheme). See Col.21:23-26.

13.   [Claims 16,29]: Regarding Claims 16 and 29, Ditto does not disclose expressly

wherein the software for implementing the trial loop includes a learning item retirement

feature, wherein the learning items are retired from the problem database upon meeting

a predetermined learning criterion. However, Boon teaches such in Col.5: 37-41.

Therefore, at the time of the invention, it would have been obvious to one of ordinary

skill in the art to incorporate the aforementioned limitation into the method and system

of Ditto, in light of the teaching of Boon, in order eliminate redundancy.

14.   [Claims 17,30]: Regarding Claims 17 and 30, Ditto discloses wherein the learning

criterion for each particular learning item is a function of the student's accuracy in

answering the learning item, and response speed for each correct answer, over a

predetermined number of repetitions of the learning item. See Col.14: 30-36.

15.   [Claim 18-20]: Regarding Claims 18-20, Ditto does not discloses expressly

wherein a session resumption feature stores an individual learner's data for learning

items in terms of problem retirement status for continuing the learning during another

session at a later time; wherein the session resumption feature allows learning to

continue at another time whence the retirement count of retired learning items is

reduced, bringing them back for review and "re-retiring" if performance still meets

learning criteria; wherein the session resumption feature allows previously retired

learning items brought back for review to rejoin the active problem set if performance

criteria do not meet the previously established learning criteria. However, Boon teaches

such in Col.5: 37-49. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate the aforementioned limitation into the method and system of Ditto, in light of teaching of Boon, in order to measure memory of the learning item.

16.   [Claim 24]: Regarding Claim 24, Ditto discloses wherein the sequencing algorithm decreases the priority score for each correctly answered learning item as a function of the student's response time in answering the question, wherein the faster the student's response time the greater the decrease in priority score. See Col.14: 29-37.

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Brown et al. (US 2001/0041330)

  -adaptive learning system

- Darby et al. (US 2002/0192624)

  -sequence of tests

- Collins et al. (US 5,577,919)

  -automated learning and performance evaluation

- Waters (US 5,540,589)

  -memory retention

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chanda L. Harris whose telephone number is 703-308-

8358. The examiner can normally be reached on M-F 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tom Hughes can be reached on 703-308-1806. The fax phone numbers

for the organization where this application or proceeding is assigned are 703-872-9302

for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-308-

1148.

ch.
June 2, 2003

S. THOMAS HUGHES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700